



Implementing Low Impact Development



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Office of the Assistant Chief of Staff for Installation Management

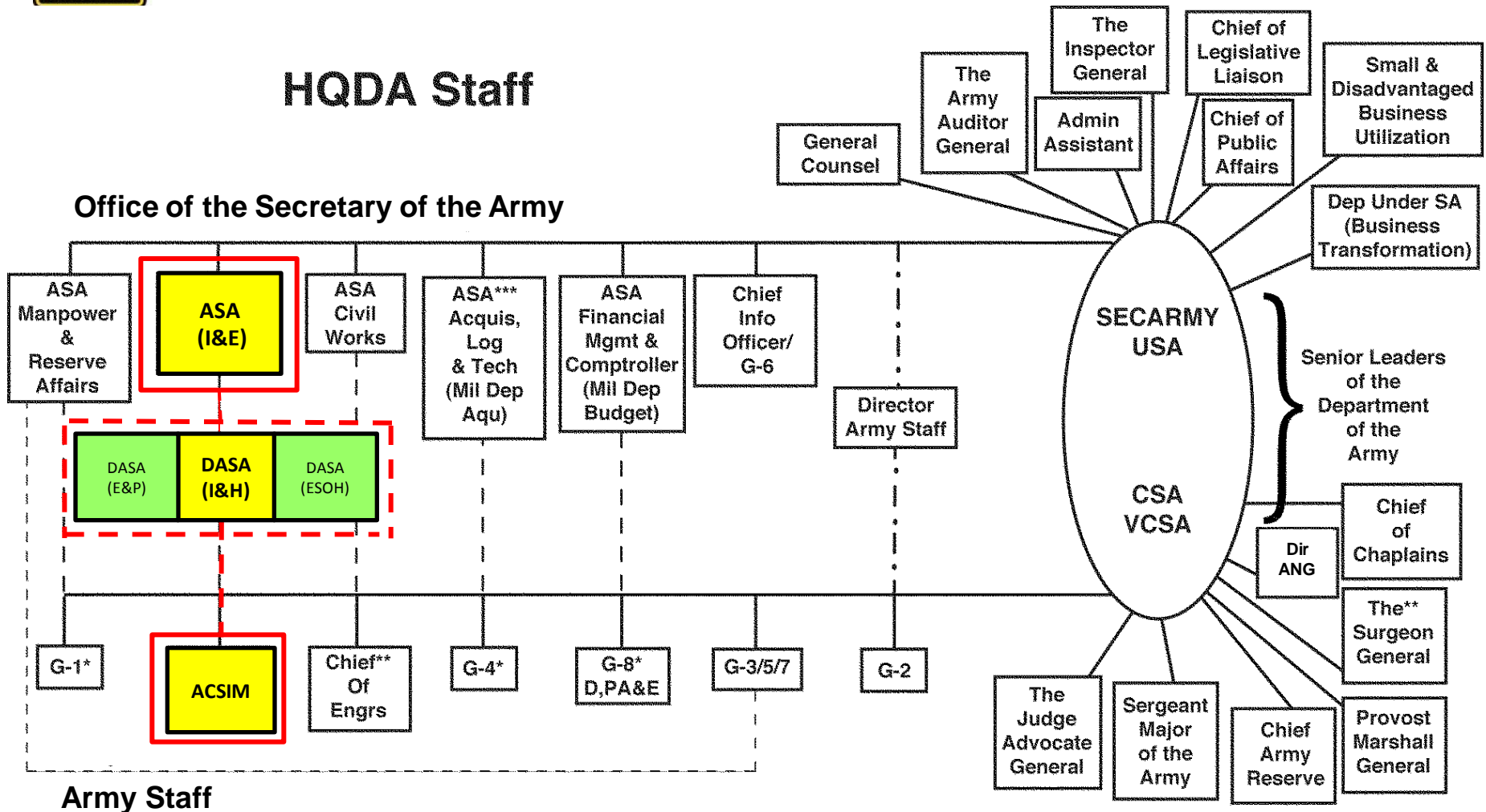
Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE JUN 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Implementing Low Impact Development				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Army Ofc of the Assistant Chief of Staff for Installation Management,600 Army Pentagon,Washington,DC,20310-0600				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the NDIA Environment, Energy Security & Sustainability (E2S2) Symposium & Exhibition held 14-17 June 2010 in Denver, CO.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 18	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Headquarters Department of Army

HQDA Staff

Office of the Secretary of the Army

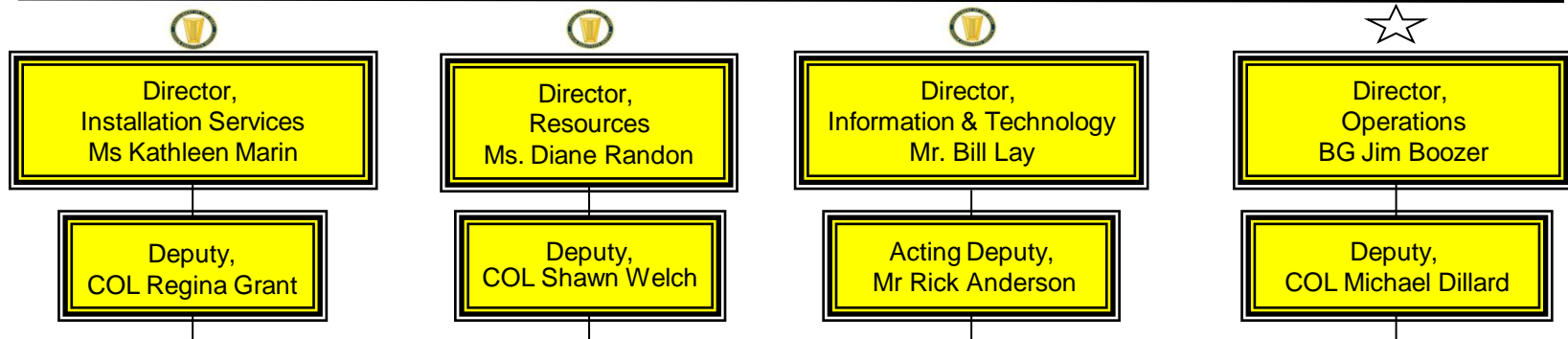
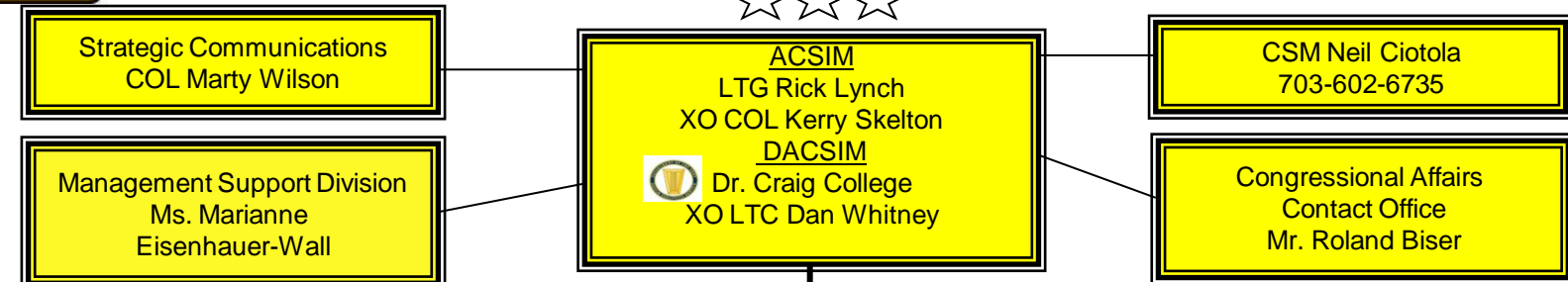


* Responsible to ASA for advise and assistance within functional area
** DRU commanders
*** Army Acquisition Executive

--- Defined responsibilities to ASAs
- - - Oversight
- * - Director Army Staff - synchronize, integrate



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On Board Strength

Civilians 391
Military 54
Current fill 86%



Nutrient and Sediment Loadings

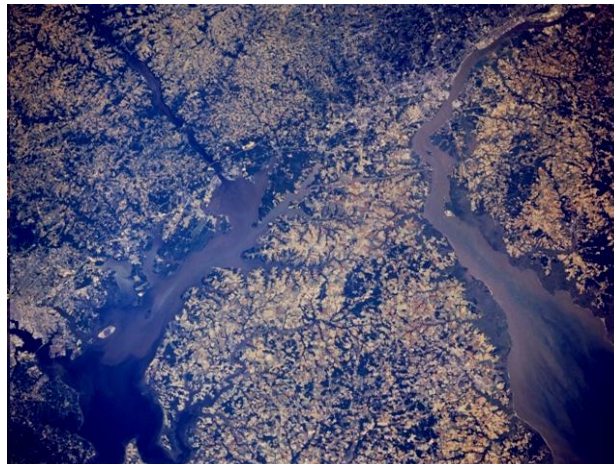
Annual Loadings to the Chesapeake Bay:

- 291 million pounds of nitrogen (59% emissions, runoff)
- 13.8 million pounds of phosphorus (30% runoff, non AG)
- 6.6 billion pounds of sediment

**Source: Chesapeake Bay Program, 2008 data*



Photograph from Low Impact Development Center



Satellite image by NASA

Photograph by Jane Thomas, IAN Image library





Army Low Impact Development Initiative

Army LID Policy to Meet or Exceed:

- Energy Independence and Security Act (EISA), Sec. 438, December 2007
- Environmental Protection Agency (EPA), Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 4, 2009
- OSD Policy Memo, DoD Implementation of Storm Water Requirements under Section 438 of the Energy Independence and Security Act (EISA), 19 Jan 2010
- Executive Order (EO) 13508 Chesapeake Bay Protection and Restoration
- Under the Chesapeake Bay TMDL, EPA will establish waste load allocations for “point sources” subject to NPDES permits
- LEED Silver Construction



Proposed Army LID Policy

- Develop new ASA(I&E) storm water policy mandating use of Low Impact Development
 - All projects (not just > 5,000 sq-ft)
 - Limitations on Site Clearing & Grubbing
 - Mandatory in FY11 SRM and FY13/14 MILCON
 - No Non-recreational Retention Ponds (storage under parking lots)
 - Mandatory Modeling (LID features attempt to restore to pre-development hydrology)
- Foster Cultural Change w/Guidance and Training: (2010 spend plan)
- Project Development
 - Master Planner/LA/Architect/Engineer involvement
 - In Line w/Installation Design Standards
 - Coordination w/USACE (incorporate in Army Standards & Standard Designs)



Way to Full Implementation

- ASA(I&E) Low Impact Development Policy
- Mandatory Timelines: FY11 SRM and FY13/14 MCA
- Get the construction community engaged; Provide Guidance and Training for the DPW: Master Planner/
Landscape Architect/Architect/Engineer and USACE
- Integrate and Update: FDG/FDT- Army Standard, ARs, IDGs, Unified Facility Criteria (UFC) 3-210-10, LID Manual, COS's (Army Standard Designs), etc.
- Demonstrate success: Fort Belvoir Medical Center (GC/DPW/BRAC Project Manager/Design Build A&E); DEMVAL projects



Eagle's Wings



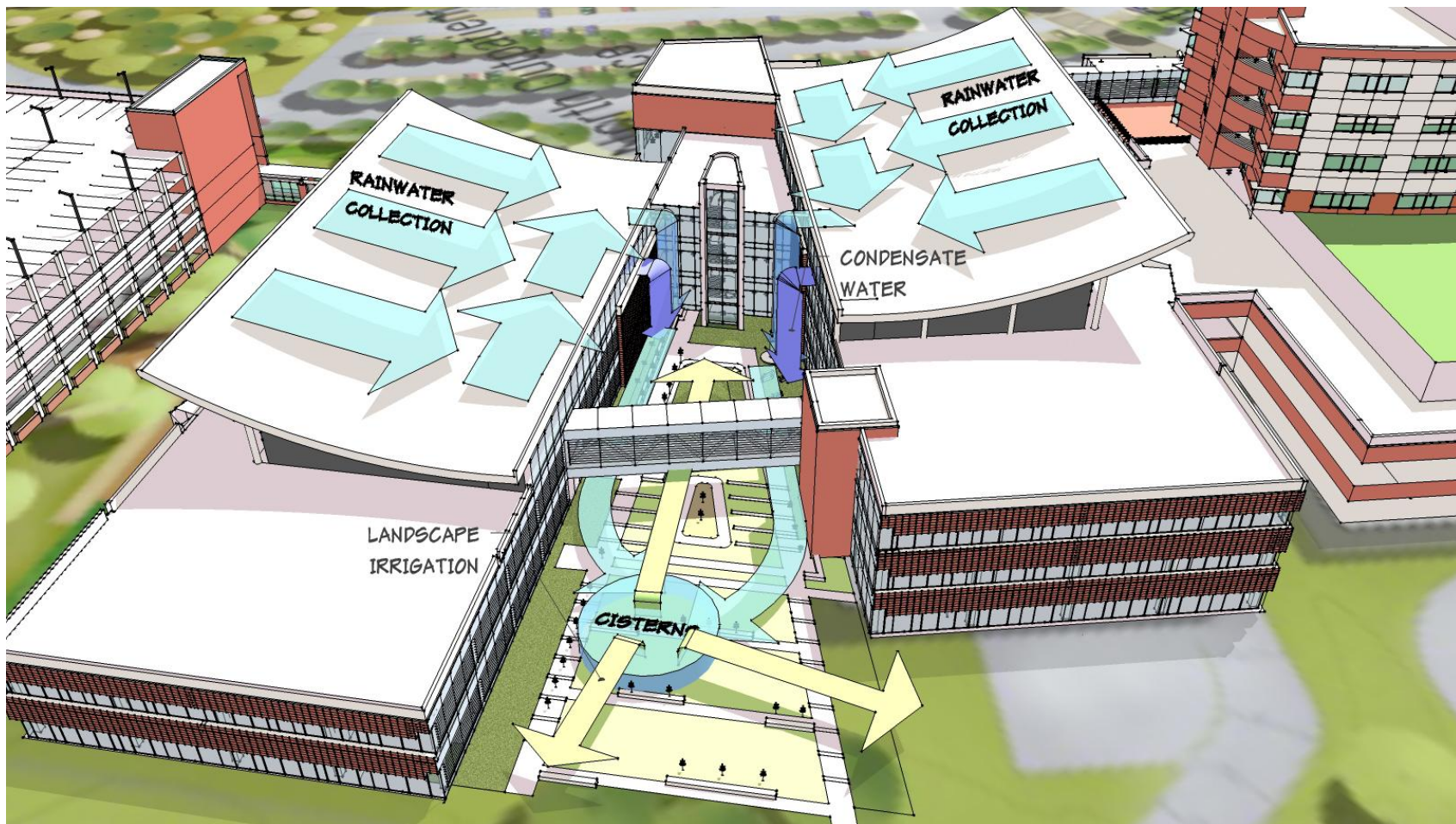


Elegant Designs





Fort Belvoir Community Hospital





Wing Construction





Structural and Non-Structural LID Controls





Eagle's Wings as of 8 Jun 10





OACSIM LID Projects

- APG
 - ARL Compound Parking Lot
 - ARL UAV Runway, Pad, Rainwater Harvesting and Parking Lot
- Fort AP Hill
 - Beaverdam Pond Parking Lot
 - Game Check/Visitor Center Parking Lot
- Fort Meade
 - Clinic Parking Lot & Drainage Channel
 - Stream Daylighting w/Wetlands



Stream Day-Lighting





QUESTIONS?



What is Low Impact Development

Low Impact Development incorporates “proven” storm water management principles and technologies into project planning and design in order to manage storm water as close to where the precipitation lands as possible. This is done to maintain or restore the pre-development hydrology of the site, reduce runoff volume and peak runoff rates, and reduce the potential transport of pollutants to receiving waters.

- Cisterns/rain barrels
- Rain gardens
- Bio-retention cells
- Soil amendments
- Reforestation
- Permeable pavement (asphalt, concrete, pavers, or blocks)
- Grass swales and bio-swales
- Green roofs



Operations Directorate, OACSIM

